

Memorandum of Law: *Trauvau Preparatoires* and Legal Analysis of Blinding Laser Weapons Protocol

The first review conference for the 1980 United Nations Conventional Weapons Convention was held between 1994 and 1996. The States Parties (including the United States) adopted an Amended Protocol II on landmines, booby traps, and other devices, and a new protocol IV on blinding laser weapons. On 5 January 1997, President Clinton submitted both the Amended Protocol II and Protocol IV to the Senate for its advice and consent as to ratification. The following memorandum was prepared by Mr. W. Hays Parks, Special Assistant to The Judge Advocate General, Law of War Matters, who was the principal United States negotiator for the blinding laser protocol. It is a historical record and analysis of that protocol.

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MEMORANDUM OF LAW

SUBJECT: *Travaux Preparatoires* and Legal Analysis of Blinding Laser Weapons Protocol

1. The first session of the United Nations Review Conference (Review Conference) of the States Parties to the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (UNCCW) drafted and adopted a fourth protocol to that convention on blinding laser weapons. This memorandum has been prepared as a *travaux preparatoires* and legal analysis of that protocol.¹

2. **Background.** The UNCCW is a treaty prepared by a United Nations conference bearing the same name as the title of the treaty, which met in Geneva between 1978 and 1980. It concluded its work on 10 October 1980, by adopting a convention and three protocols. Protocol I prohibits any weapon the primary effect of which is to injure by fragments not detectable by x-ray; Protocol II regulates the use of landmines, booby traps, and other devices; and Protocol III regulates the use of incendiary weapons. The UNCCW entered into force on 2 December 1983. The United States became a party to the Convention and its Protocols I and II on 24 September 1995, six months after deposit of its instrument of ratification.

By the terms of article 8, paragraph 3 of the convention, any State Party to the convention may call for a review conference ten years following its entry into force. On 9 February 1993, France made a request to the Secretary-General of the United Nations, in his capacity as depositary of the convention and its three protocols, to convene a review conference for the purpose of amending and updating Protocol II. On 16 December 1993, by its resolution 48/79, the General Assembly approved the

request of the Secretary General to establish a group of governmental experts to prepare the review conference. On 22 December 1993, States Parties to the UNCCW submitted a letter to the Secretary-General, asking him to establish a group of experts to facilitate preparation for a review conference, and to convene a review conference. Four sessions of meetings of governmental experts preceded the convening of the Review Conference.

The regulation or prohibition of lasers has been the subject of international consideration for more than two decades. Discussions of lasers at conferences of government experts hosted by the International Committee of the Red Cross (ICRC) at Lucerne (1974) and Lugano (1976) to consider the legality of the use of certain conventional weapons were inconclusive. At the conference that drafted and adopted the UNCCW, a Swedish proposal to ban lasers received little support and was not accepted.

Following the 1980 conference, Bo Rybeck, Surgeon General of Sweden, tasked a Swedish Army officer to conduct a study of the military, medical, and legal consequences of battlefield use of lasers. The dissertation by Major General Bengt Anderberg formed the basis for a renewed effort by Sweden to regulate or prohibit the use of antipersonnel laser weapons or other lasers for systematic blinding of enemy combatants. When initial efforts (1986 to 1988) were unsuccessful, Sweden sought and gained the assistance of the ICRC. The ICRC hosted four meetings of experts on the subject between 1989 and 1991 and published a report in 1993 entitled *Blinding Weapons*. With the call by France for a Review Conference, Sweden and the ICRC initiated a major international effort to enlist support for a blinding laser weapon protocol.

The United States position from 1974 to 1995 did not favor a blinding laser weapon protocol. Unlike other conventional weapons under discussion, there was no evidence to support the threat voiced by Sweden.² Blinding is not a new battlefield

1. This memorandum is based on the author's participation as a member of the United States Delegation to the 1978-80 United Nations Conference that promulgated the UNCCW; as a United States representative in international meetings between 1986 and 1991 on the subject of a protocol on blinding lasers; as a member of the United States Delegation in discussions of this protocol in the four Meetings of the Group of Governmental Experts to Prepare the Review Conference of States Parties to the 1980 United Nations Conventional Weapons Convention (1994-95) that preceded the Review Conference; and participation in the same capacity in the first and final sessions of the Review Conference, which were held in Vienna from 24 September to 13 October 1995 and Geneva from 22 April to 3 May 1996, respectively.

2. To date, there is no record of a case of a battlefield laser causing permanent blindness, as the term blindness is defined in Protocol IV.

phenomenon, and blinding by a laser was not viewed as worse than other, lawful mechanisms for causing blinding, other injury, or death to combatants.

Lasers had become essential tools on the modern battlefield, enhancing communication, rangefinding, and weapons guidance. Laser programs to counter enemy optical and electro-optical devices were under development, as were lasers for strategic applications, such as theater missile defense. Opinions by the Judge Advocates General of the Navy and Army in 1984 concluded that injury to combatants ancillary to the use of lasers for rangefinding, target acquisition, or other materiel purposes was not prohibited by the law of war. The United States opposition to a laser protocol was based in part on a concern that any protocol would affect lawful uses, which could place civilian populations and individual civilians at greater risk from less-accurate delivery of conventional munitions while relinquishing or diminishing a lawful enhancement of tactical capabilities that enables United States forces to fight more effectively.

A 1988 opinion by The Judge Advocate General of the Army, with the concurrence of the offices of the Judge Advocate Generals of the Navy and Air Force, concluded that use of a laser as an antipersonnel weapon would not violate the law of war prohibition on *superfluous injury* or *unnecessary suffering* contained in article 23(e) of the Annex to Hague Convention IV Respecting the Laws and Customs of War on Land of 18 October 1907. This became and remains the position of the United States. It was feared that a blinding laser weapon protocol would establish an exception to long-standing law of war principles by prohibiting the lawful use of a lawful weapon or system against a combatant. Concern was expressed that any protocol would have an inhibiting effect on legitimate employment of lasers by battlefield commanders of States Parties, fearing that they or operators of laser systems could be charged with war crimes if captured. Spurious charges of war crimes was a basis for denial of prisoner of war status to U.S. military personnel entitled to such status when captured by North Vietnam during the Vietnam War. This precedent weighed heavily in development of the United States position. The United States also opposed a laser protocol because time devoted to its formulation would detract from the primary purpose for the Review Conference, which was the redrafting of Protocol II in order to address the more serious problem of the misuse of landmines in some parts of the world.³

At the same time, the United States had neither plans nor proposals for development of a blinding laser weapon. By the fourth and final session of the United Nations-hosted meetings of the Group of Governmental Experts in January 1995, efforts

by Sweden and the ICRC to enlist political support for a laser protocol had proven to be moderately successful. Upon conclusion of that session, the decision was made to reconsider the United States position before the Review Conference convened in September 1995.

There were two major legal factors in this reconsideration process. Each will be discussed concurrently in the context of development of the revised United States position and as each was considered in the Review Conference.

As indicated, the United States did not and does not regard the use of a laser to blind or to cause other eye injury to an enemy combatant as constituting *unnecessary suffering* in violation of the law of war. States Parties involved in the negotiations agreed that lasers had become an important tool on the battlefield and that blinding ancillary to their use or use as other than antipersonnel weapons *per se* was inevitable and lawful. Even for the few States Parties (such as Sweden) that sought language to prohibit intentional laser blinding, it had proven impossible in the discussions of the Group of Governmental Experts to draft language that would prohibit intentional blinding while acknowledging the legality of ancillary blinding. The issue of addressing individual intent seemed insurmountable and was of major concern to a number of delegations that were the more active participants in the laser negotiations, including the United States, the United Kingdom, Australia, France, Canada, Argentina, Denmark, and Russia.

In recognition of this, there was a desire to shift the focus of the protocol from battlefield use to creation of a national-level obligation. This would provide the battlefield commander or laser device user the same right to assume the lawfulness of the laser devices as he or she has for other issued weapons or devices.⁴ This would also entail a shift from a law of war approach to one more characteristic of arms control agreements.

The second factor entailed addressing Swedish concerns about use of a laser for systematic, intentional blinding. Traditionally the issue could have been resolved by prohibiting the use of lasers to permanently blind as a "method of warfare." The original Swedish proposal contained language prohibiting the use of "laser beams as an antipersonnel method of warfare."⁵

Method of warfare is one of two historic phrases in the law of war. Although neither phrase has an agreed definition, *means of warfare* traditionally has been understood to refer to the effect of weapons in their use against combatants, while *method of warfare* refers to the way weapons are used in a

3. Many of these points were expressed in a 1 February 1995 letter from President William J. Clinton to Senator Patrick J. Leahy.

4. The presumption of legality is reinforced by Department of Defense Directive 5000.1, which requires a law of war review of all weapons by the Judge Advocate General of the proponent department.

5. CCW/CONF.I/GE/CRP.3 (16 May 1994).

broader sense. Thus, *means* considers the legality of the way in which a projectile or its fragments, for example, kill or injure combatants. As an illustration, Protocol I of the UNCCW makes the use of fragments not detectable by X-ray a prohibited *means of warfare*.

In contrast, *method* weighs the way in which weapons may be employed, particularly where employment may have an adverse effect on civilians not taking a direct part in the hostilities. The prohibition of poison or poisoned weapons contained in article 23(a) of the Annex to Hague Convention IV of 1907 is a prohibition on a *means of warfare*, while the customary practice of condemning the poisoning of wells prohibits a *method of warfare*. Likewise, starvation of an enemy nation has been a *method of warfare*; destruction of crops and execution of a blockade are two *means* by which the *method* could be accomplished.⁶ Had this historic distinction been maintained between *means of warfare* and *methods of warfare*, a provision along the lines noted above might have been possible in the laser protocol.

Unfortunately, a certain degree of confusion and overlap between the two concepts has occurred over the past two decades. In an effort to update the 1907 Hague Convention IV, the following language was written into article 35 of the 1977 Additional Protocol I: "In an armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited . . . It is prohibited to employ weapons, projectiles, and material [sic] and methods of warfare of a nature to cause superfluous injury or unnecessary suffering."

The first paragraph merged the two phrases. The second used *methods of warfare* where *means of warfare* may have been more accurate. Its predecessor provision, article 23(e) of the Annex to the 1907 Hague IV, prohibited the employment of "arms, projectiles, or material [sic] of a nature to cause superfluous injury," that is, *means of warfare*.

The result of this confusion of terms precluded support by the United States for use of the phrase *method of warfare*. It was feared that use of the phrase *method of warfare* could lead to a prohibition on the lawful employment of laser devices (such as rangefinders, jammers, or target designators) or that ancillary blinding could result in war crimes allegations.

The United States was joined in its opposition to use of the phrase *method of warfare* by other delegations that were major participants in the drafting of Protocol IV, most notably the United Kingdom and France. In a meeting with nongovernment organizations on 6 October 1995 (during the first session of the Review Conference), Swedish delegate Marie Jacobsson stated that States Parties other than the United States had "real problems" with use of *method of warfare*, that is, that while the concern expressed by the United States may have been one of

the more vocal, the United States did not necessarily hold the most extreme position on this issue.

On 29 August 1995 Secretary of Defense William J. Perry approved a new Department of Defense policy on blinding lasers. It stated:

The [DoD] prohibits the use of lasers specifically designed to cause permanent blindness of unenhanced vision and supports negotiations prohibiting the use of such weapons. However, laser systems are absolutely vital to our modern military. Among other things, they are currently used for detection, targeting, range-finding, communications, and target destruction. They provide a critical technological edge to U.S. forces and allow our forces to fight, win, and survive on an increasingly lethal battlefield. In addition, lasers provide significant humanitarian benefits. They allow weapon systems to be increasingly discriminate, thereby reducing collateral damage to civilian lives and property. The [DoD] recognizes that accidental or incidental eye injuries may occur on the battlefield as the result of the use of legitimate laser systems. Therefore, we continue to strive, through training and doctrine, to minimize these injuries.

This policy statement and supplemental guidance contained in a memorandum signed the same day by Secretary Perry became the basis for the revised United States position, the negotiation guidance for the United States Delegation, and the statement delivered by Ambassador Michael J. Matheson in the Review Conference plenary session on 27 September 1995. The United States position in turn became a primary basis for drafting the text of Protocol IV on Blinding Laser Weapons.

The Review Conference was convened in Vienna on 24 September 1995. Ambassador Wolfgang Hoffmann of Germany was appointed as Chairman of Committee III, the Laser Working Group. Committee III met four times over the next two weeks in its preparation of Protocol IV.

This historical background is important to understanding the results of the Vienna negotiations of Protocol IV and its text.

3. Protocol negotiation and analysis. Protocol IV consists of the following articles:

a. Article 1. The text of Article 1 states:

6. Starvation of civilians or an enemy civilian population as a method of warfare is now prohibited by Article 54 of the 1977 Protocol I Additional to the Geneva Conventions of August 12, 1949. Although the United States is not a party to Additional Protocol I, United States policy and practice is consistent with the prohibition contained in Article 54.

It is prohibited to employ laser weapons specifically designed as their sole combat function or as one of their combat functions to cause permanent blindness to unenhanced vision, that is to the naked eye or to the eye with corrective eyesight devices. The High Contracting Parties shall not transfer such weapons to any State or non-State entity.

As the delegate from Sweden observed in the fourth and final meeting of the Laser Working Group on 6 October 1995, Protocol IV is a unique step in combining law of war and arms control mechanisms. The first sentence of Article 1 follows arms control lines by creating a national obligation to forego the use on the battlefield of a laser weapon of the type described in the balance of the sentence, rather than establishing that an antipersonnel laser weapon is inconsistent with the law of war prohibition on *unnecessary suffering*.

As Sweden stated in the first meeting (29 September 1995) of Committee III (the Laser Working Group), the intent of the protocol is clear: to prohibit battlefield use of antipersonnel laser weapons in order to prevent systematic, intentional blinding of combatants. It does not, and was not intended to, prohibit the use of laser systems for rangefinding, jamming, dazzling, communications, weapons guidance, or attack or destruction of materiel. The intent also was to restrict *battlefield* (i.e., tactical) lasers. The Protocol does not affect possible strategic or theater laser defense systems unless such a system meets the criteria for a blinding laser weapon contained in Article 1. Establishment of an obligation at the national level on design and deployment, rather than promulgation of a rule for battlefield employment, was intended to provide an assurance to military commanders that laser systems on the battlefield are lawful, while avoiding the more complex, difficult issues of mens rea and individual criminal responsibility.

Neither the prohibition in Article 1 nor anything else in Protocol IV establishes, nor was it intended to establish, that an individual, intentional act of blinding by a laser constitutes *unnecessary suffering* or is otherwise a violation of the law of war, for several reasons. The first reason was the unwillingness of most delegations, including the United States, to conclude that blinding by a laser is worse than blinding by other conventional weapons or other battlefield injuries (such as quadriplegia) or death. The second reason was a desire expressed by a number of delegations, including the United States, to avoid an offense based upon mens rea. For these reasons, guidance to the United States delegation contained in the 29 August 1995

supplemental memorandum of the Secretary of Defense was explicit in directing that "the protocol should not prohibit the intentional use of a laser designed for other purposes to cause permanent blindness."

Finally, although Article 2 requires use of a laser device in a manner consistent with the spirit and intent of the Protocol, the delegations could not agree that a soldier should be criminally responsible if, in an *in extremis* situation, he employs a laser device against an enemy combatant to save the user's life.⁷ However, a laser meeting the Article 1 criteria for a blinding laser weapon is prohibited from any use, whether for individual or systematic, intentional blinding.

In accordance with the 29 August 1995 supplemental guidance of the Secretary of Defense, Article 1 does not prohibit research, development, manufacture, or possession of such a weapon (such as to test and to evaluate laser protection equipment, or possession of foreign laser equipment [including antipersonnel laser weapons whose battlefield use is prohibited by Article 1] for research, testing, and evaluation).

Employment of a laser is prohibited by the Protocol if, and only if, it meets each of four criteria:

- (a) It is a weapon
- (b) specifically designed
- (c) to cause permanent blindness
- (d) to unenhanced vision.⁸

Choice of the term *weapon* was intentional to distinguish the prohibited system from lasers which are used for rangefinding, jamming, dazzling, communications, weapons guidance, and similar purposes. The criteria of designing a weapon to cause intentional, permanent blindness (that is, injury to humans) distinguishes the intended prohibition from a laser specifically designed to attack or destroy materiel, such as a missile. Further definition of *laser weapon* was strongly resisted by a number of delegations for a number of reasons, including time constraints. While the many rangefinders, jammers, or anti-materiel lasers may have more than sufficient power to cause permanent blindness to an individual, it is the intent of the program, generally stated in the operational requirement document, that determines whether or not the laser falls within Protocol IV's prohibition on battlefield use. Due to a duality in laser capabilities, no clearer distinction was possible.

7. A recent article by the delegate of the International Committee of the Red Cross who participated in the negotiations incorrectly declares that "[i]t goes without saying that the Protocol bans the deliberate blinding of both soldiers and civilians." Louise Doswald-Beck, *New Protocol on Blinding Laser Weapons*, INT'L REV. OF THE RED CROSS, May-June 1996, at 293. This statement is inconsistent with the frequently stated intent of the United States delegation and the other delegations that drafted the Protocol, which, as the ICRC delegate acknowledges, "was not contested by delegations." *Id.* at 292. For the reasons stated herein, the Protocol contains no language, and was intended to contain no language, banning the deliberate blinding of an enemy soldier or any other conduct that might raise individual mens rea. In contrast, Article 14(2) of the Amended Protocol II on landmines, booby traps, and other devices contains explicit language for the imposition of penal sanctions on individuals violating the provisions of that protocol, which was negotiated concurrently with Protocol IV.

8. As indicated, these criteria originated in the 29 August 1995 Secretary of Defense policy statement.

Specifically was carefully chosen over *primarily* based upon the ordinary meaning of each term, even though (as noted in the preceding paragraph) the power of a laser may permit it to have dual potential. Virtually any laser may cause eye injury, including permanent blindness, under the right circumstances, and any laser with adequate power to jam, damage, or destroy (e.g., an electro-optical device) could have sufficient power to cause damage, including permanent blindness, to unenhanced vision. Conversely, a laser device that is eye safe at all ranges would likely lack the power to perform missions such as jamming or weapons guidance. The term *primarily* would have meant that the laser in question was designed *chiefly* to blind, thereby allowing a laser whose primary purpose (in quantitative terms, 50.1%) was to jam, but that had a secondary purpose (49.9%) of blinding. This would have undermined the purpose for, and the intent of, the protocol.

Specifically means “explicit,” that is, an intended or stated purpose. While the duality of capability of many lasers may make this difficult to ascertain where the operational requirement document does not state it as one of a laser’s capabilities, *specifically* was regarded as more objective than *primarily*. Individual States Parties are then under an obligation to ensure good-faith implementation of the Protocol.

The clause “as their sole combat function or as one of their combat functions” is redundant in view of the acceptance of *specifically*. However, some delegations felt it was both complementary and necessary, and it was retained in the final form of the protocol.

Permanent blindness will be discussed in the analysis of Article 4.

Unenhanced vision is directly related to the acknowledgment in Article 3 of the inevitability of some eye injury and its lawfulness as the result of laser use against electro-optical and optical equipment. As the first sentence of Article 1 states, *unenhanced vision* means “the naked eye or . . . the eye with corrective eyesight devices,” such as glasses or contact lens. It does not mean binoculars, a telescopic sight, night-vision goggles, or similar devices used to increase visual capability above that required by an ordinary person to perform routine tasks, such as reading or driving an automobile.

The second sentence of Article 1 is the culmination of an original proposal by Austria, which received support from Belgium, Cuba, and Canada, to prohibit the development, production, stockpiling, or transfer (as well as use) of a laser whose use is prohibited by the Protocol. The United States,⁹ India, and a number of other nations opposed limits on development, production, and stockpiling, expressing concerns as to verification

or the drafting of an unnecessarily complex protocol in the limited time available. Consequently, the provision was limited to transfer.

The prohibition on transfer was cleared by the Departments of Defense and State and the Arms Control and Disarmament Agency in the course of the negotiations; however, further examination of the ban on transfer raises a potential problem that relates directly to the ability of a State Party to verify treaty compliance. The prohibition on transfer may limit or prevent United States agencies from obtaining and examining foreign laser devices suspected of meeting the criteria set forth in Article 1.

The intent of the drafters was to prevent the transfer of a laser weapon which meets the Article 1 criteria to a State or non-State entity, to prevent proliferation, and to minimize the risk of their illegal battlefield use. The transfer provision would not prohibit the United States from receiving a laser weapon, as the obligation is on the transferor rather than the transferee. It does not prevent: (1) the transfer of a laser device that is not established to be a laser weapon, (2) the receipt of a laser weapon from a non-State Party, (3) the recovery of a laser weapon from a battlefield, or (4) the examination of a laser weapon while in the hands of another State Party. Thus, if State Party A acquires a suspect laser, it may not permanently transfer that laser to State Party B if it determines that the laser is in fact a laser weapon prohibited by the Protocol. However, State A may allow State B to study, test, and examine the weapon within the territory of State A, or State A authorities may loan it to State B for the same purposes.

Summary. Since the first sentence of Article 1 explicitly follows the 29 August 1995 policy statement of the Secretary of Defense, it is consistent with the interests and policy of the United States. For reasons stated in this analysis, the prohibition on transfer may limit U.S. intelligence and verification efforts. It should not impede U.S. ratification and, indeed, would remain a problem whether the United States makes a favorable or unfavorable decision as to ratification.

b. Article 2. Article 2 states: “In the employment of laser systems, the High Contracting Parties shall take all feasible precautions to avoid the incidence of permanent blindness to unenhanced vision. Such precautions shall include training of their armed forces and other practical measures.”

In meetings with members of the Swedish delegation, it was apparent that a concern remained that while Article 1 prohibits battlefield use of a specific antipersonnel weapon, nonetheless an unscrupulous State or members of its military forces could employ laser rangefinders or other devices to the end Sweden sought to prevent—systematic, intentional blinding.¹⁰ At the same time, the Swedish delegation was aware of the concerns

9. The 29 August 1995 supplemental guidance of the Secretary of Defense expressly directed the U.S. Delegation to oppose any limits on development, production, or stockpiling. *Transfer* was not mentioned.

of the United States and other delegations with regard to a provision condemning laser blinding as a *method of warfare*. It also was aware that a number of delegations, including the United States, could not accept language that would make it a war crime to use a laser device to blind under any and all circumstances.

Article 2 is compromise language drafted by delegates of States Parties from Sweden, the Netherlands, the United Kingdom, France, and the United States¹¹ at the request of the Chairman of the Laser Working Group during its third meeting on 4 October 1995. Article 2 is intended to meet a concern of the Swedish delegation—that is, not to undo with the one hand what the other hand accomplished in Article 1. It does not make the use of a laser device to intentionally blind an enemy combatant a violation of the Protocol or the law of war, but admonishes States Parties to take “feasible precautions” in their employment of laser devices to prevent systematic use of laser devices for blinding and to minimize the risk of what would be tantamount to a violation of the spirit and intent of the Protocol.

The UNCCW defines *feasible precautions* in Article 1, paragraph 5 of Protocol III (Incendiary Weapons), stating that *feasible precautions* “are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations.” Although the United States elected not to become a party to Protocol III at the time of its ratification of the UNCCW, the Departments of State and Defense and the Joint Chiefs of Staff agreed with the definition of *feasible precautions* at the time of its incorporation into Protocol III (1980),¹² and no objection to the definition has been expressed in subsequent reviews.

The examples of precautions which are written into Article 2 (training and “other practical measures”) are illustrative rather than exhaustive. The language parallels that contained in the 29 August 1995 policy statement by Secretary of Defense

Perry. Other practical measures would include doctrine and rules of engagement. Although the Secretary of Defense used the term *doctrine* as an example in his 29 August 1995 policy statement, some States Parties were reluctant to use the term (even as an example) because their military forces do not rely on doctrine to the extent that United States forces do. Consequently, “other practical measures” was substituted.

Article 2 does not, and was not intended to, prohibit blinding by laser as a *method of warfare*. The smaller group of five that drafted Articles 1 through 3 at the request of the Chairman of the Working Group had as their intent avoidance of the term *method of warfare* for reasons stated previously.

A statement offered by Iran (not a State Party) in the last informal Laser Working Group meeting on 6 October 1995 that the Protocol should be interpreted as meaning that any intentional blinding is illegal was immediately challenged by the head of the United States delegation. In that same session, Mexico stated that the Protocol prohibits the use of lasers as a means or method of warfare, while Ecuador stated that the protocol prohibits blinding laser weapons as a means of warfare.

These statements are not supported by the negotiation history, and statements by the States Parties who drafted articles 1 through 3—Sweden, France, the Netherlands, the United Kingdom, and the United States—are to the contrary. Neither Iran, Mexico, nor Ecuador repeated its statement in the final formal session of the Laser Working Group that followed the informal working group meeting, or in the Conference’s final plenary meeting.¹³ In contrast, in the final, formal session of the Laser Working Group on 6 October 1995, the Netherlands and France—both participants in the smaller drafting group—offered statements that Protocol IV does not prohibit blinding by laser as a *method of warfare*. Their statements were not challenged.¹⁴

Summary. Article 2 was drafted in a way that would carry the spirit and intent of Article 1 over to the employment of laser

10. Although the terms *mass blinding* and *systematic, intentional blinding* were used in these meetings and in the very informal 4 October 1995 drafting session (discussed *infra*), the latter more accurately captures the intent of the drafters. This always was the intent, as confirmed in a paper by the ICRC delegate; see L. DOSWALD-BECK, *BLINDING LASER WEAPONS*, para. 2.4.2.1 (Human Rights Centre, University of Essex, 1995), which states that “[i]t was thought that this . . . would fulfill the need of preventing large numbers of persons [from being] intentionally blinded, which is what is feared and what repulses persons . . .”

11. The special drafting group appointed by the Chairman of the Laser Working Group consisted of the representatives of Sweden, Marie Jacobsson; the Netherlands, Gert-Jan van Hegelsom; the United Kingdom, Henry Pugh and Lieutenant Colonel David Howell; France, Phillippe Sutter; and the United States, the author of this article. This group drafted Articles 1 through 3 and agreed to submit them to the Laser Working Group as an indivisible product. They were accepted as such by the Laser Working Group and the conference.

12. This statement is based on the personal knowledge of the author of this article, who was the member of the United States delegation responsible for negotiation of Protocol III.

13. Under the terms of Article 8, paragraphs 3(a) and (b) of the UNCCW, States not parties may participate in a review conference as observers; the same privilege is extended to the ICRC. But only States Parties to the UNCCW may vote for amendments to the UNCCW or its protocols, or for new protocols. This language was intended as an incentive for States to ratify or accede to the UNCCW and its protocols. The language was also intended to prevent a State which is not a party from offering proposals which would bind States Parties but by which the non-State Party would not be bound. Similarly, only statements by States Parties are germane to the negotiating history of the UNCCW and its protocols.

14. The article by the ICRC delegate (see Doswald-Beck, *supra* note 7) errs again on page 292 in stating that Article 2 means that “if lasers are used to counter optical equipment, particular efforts would have to be made to avoid blinding individuals, as in practice such lasers would be the most serious hazard to eyesight.” As indicated in the discussion of unenhanced vision, the ICRC statement is not consistent with the drafting intent of the States-Parties.

devices other than weapons, without making it a war crime to use a laser to permanently blind an enemy combatant, and to avoid any confusion that may have resulted from the use of the term *method of warfare*. Its language is consistent with the 29 August 1995 supplemental guidance provided by the Secretary of Defense.

c. Article 3. Article 3 provides: "Blinding as an incidental or collateral effect of the legitimate military employment of laser systems, including laser systems used against optical equipment, is not covered by this Protocol."

The decade of debate over a laser protocol had led all participants to appreciate that the legitimate use of lasers for the various missions previously identified inevitably could, and in all likelihood would, result in some cases of loss of vision by combatants. It was essential to acknowledge this as inevitable and lawful. This was recognized in the guidance for the United States Delegation and by all States Parties in the Vienna negotiations and was not a subject of debate.

The clause "including laser systems used against optical equipment" was suggested by the ICRC in draft language it circulated in July 1995. It was incorporated into the United States guidance and was subsequently offered by Ambassador Matheson in his 27 September 1995 plenary statement. Similar language was contained in a working paper submitted to the Review Conference by the Netherlands on 29 September 1995, and the clause became a part of the Laser Working Group's draft in the course of its 2 October 1995 session. It was retained by the small five-delegation drafting group during the 4 October 1995 meeting mentioned in the review of Article 2.

The clause serves several purposes. First, it complements the prohibition in Article 1 against the use of a laser weapon specifically designed to permanently blind unenhanced vision. Battlefield optics are used to enhance vision to aid enemy employment of weapon systems, and, in many respects, they are critical to the most effective use of those systems. Second, the clause is an acknowledgment that a variety of optics may be in use on the battlefield and that some of these optics increase the risk of eye injury by amplifying the power of a laser beam that may be projected through the optic into the user's eye. For example, one United States soldier apparently suffered this type of injury to one eye during Operation Desert Storm.

Third, the broader term "optic" was preferred over "electro-optic" because a laser device used for jamming enemy optics cannot discriminate between non-direct view (electro-optical devices such as television, infrared, and night vision devices) and direct view (binoculars, sniper scopes, and some armored

vehicle periscopes) optical systems. Guidance for the United States Delegation was specific in its preference for the broader category, stating in part that the delegation should "seek to clarify that 'unenhanced vision' means vision that is not enhanced with *optical devices* (e.g., night vision scopes, *binoculars*, *telescopes*, and video cameras) . . ." [emphasis added]. This preference was strongly supported by other key delegations, such as the United Kingdom, France, Russia, and China, and it is unlikely that consensus on a laser protocol could have been achieved without the use of the broader term.¹⁵

Finally, the term *optic* was chosen with complete awareness that counter-optics laser use may result in permanent blinding. As a delegate from the Netherlands observed during a 3 October 1995 working group meeting, the prohibition sought in Protocol IV was against systematic, intentional blinding. A number of delegations were unwilling to accept any provision that might suggest that counter-optic blinding is an illegal act.

Two nongovernment organizations, the ICRC and Human Rights Watch, lobbied heavily but unsuccessfully between the third and fourth meetings of the Laser Working Group for the use of the narrower term *electro-optic* (contrary to the draft previously offered by the ICRC). Adoption of the narrower term would have resulted in an inconsistency in the Protocol. The States Parties were unwilling to prohibit the use of a laser to blind an individual soldier, that is, to make such use a war crime. For example, had Article 3 used the term *electro-optical* instead of the broader term *optical*, it would have implied that the incidental blinding of a soldier using a sniper scope would be illegal when his intentional blinding would not be. The narrower alternative was impractical, and the ambiguity that its use would have caused was undesirable. The special drafting group appointed by the Chairman of the Laser Working Group determined that the broader category was preferable. Ultimately, the Laser Working Group and the States Parties participating in the Review Conference agreed and adopted this language by consensus.

Summary. The language of Article 3 is consistent with the guidance for the United States Delegation, and it is essential to the future success of the laser protocol. It recognizes the inevitability of eye injury as the result of lawful battlefield laser use and is an important collateral step in avoiding war crimes allegations where injury occurs from legitimate uses.

d. Article 4. Article 4 states: "For the purpose of this Protocol 'permanent blindness' means irreversible and uncorrectable loss of vision which is seriously disabling with no prospect of recovery. Serious disability is equivalent to visual acuity of less than 20/200 Snellen measured in both eyes."

15. The article by the ICRC delegate (*see* Doswald-Beck, *supra* note 7) errs once again on page 294 in asserting that "If lasers were used against direct optics, such as binoculars . . . [s]uch blindness could hardly be called 'incidental or collateral' as it would be deliberate and direct. It is submitted, therefore, that according to normal interpretation of Article 3 the phrase 'including laser systems used against optical equipment' could not be used to legitimize the deliberate blinding of persons using binoculars or other direct [sic] optics." Again, this statement repeats an argument against use of the term *optic* (as opposed to *electro-optic*) offered by the ICRC delegate during the session, but that was not accepted by the delegates who drafted this language. It is also counter to the logic of the delegations in using the words *unenhanced vision* in Articles 1 and 2.

Article 4 proved to be the most difficult and time-consuming provision to draft because there is no agreed international definition for permanent blinding which is suitable for use with reference to battlefield laser injury. Definitions which had been considered are for other purposes, such as percentage of disability, or with a view to establishing visual acuity for an individual suffering from progressive visual deterioration, such as cataracts. The new technology of battlefield laser injury has brought with it a need for a definition that approaches the issue from an entirely different angle than those related to deterioration from disease or percentage of disability.

Two opposing views were offered in pursuit of a definition. Some, including nongovernment organizations representing the blind or visually impaired, argued against a definition, in part because of their experience a decade earlier in seeking a global definition (and discovering there were at least thirty-two definitions, some significantly less scientific than others). As the Protocol was to establish compliance, however, the United States and some other States Parties felt that it was imperative to have a definition that was as precise as possible.

The first sentence of Article 4 is based upon the official definition for blindness of the United Kingdom. The second sentence and the visual acuity standard (as opposed to a percentage of loss of vision) was incorporated at the insistence of the United States to provide an objective standard to complement the British formula. The Article was adopted by consensus within the Laser Working Group with a realization that the issue merits further consideration by the scientific community. If a better definition results from future efforts, it may be offered as an amendment of Article 4 at a subsequent Review Conference.

Summary. Article 4 offers as precise a definition of permanent blindness as could be achieved under the circumstances. In all likelihood it can and will be improved upon at a future Review Conference. It is precise enough to prevent misuse or misunderstanding of the term.

e. Article 5. Article 5 covers entry into force of the Protocol, stating that "This Protocol shall enter into force as provided for in paragraphs 3 and 4 of article 5 of the Convention."

This paragraph provides that the Protocol will enter into force six months after the date by which twenty States have notified their consent to be bound by the Protocol (UNCCW article 5, paragraph 3); the Protocol will enter into force for States other than the first twenty six months after the date on which that State has notified its consent so to be bound (UNCCW article 5, paragraph 4).

Article 5 of Protocol IV adopts the mechanism by which the UNCCW and its first three protocols entered into force and the method by which subsequent States become bound by the Con-

vention and its protocols. These mechanisms were accepted by the United States at the time of its ratification of the UNCCW and its Protocols I and II. No UNCCW Convention provisions were changed by the Review Conference.

Summary. There are no legal issues with respect to this provision.

f. Scope. The Protocol contains no provision regarding its scope of application. The treaty's scope of application (Article 1) extends to international armed conflicts only. At the time of the drafting and adoption of Protocol IV, participants were aware that a broadened scope for Protocol II (Landmines, Booby-traps, and Other Devices) was being considered to extend the scope of the latter to internal conflicts. There was agreement that the scope of Protocol IV would be deferred until that of Protocol II was resolved, and a general understanding existed among participants in the Review Conference that the scope of Protocol IV would be the same as for Protocol II. To this end, the Report of Committee III [Laser Working Group] stated: "[d]uring the course of negotiations on the draft text, the Committee decided to leave the question of scope . . . to the decision of the Drafting Committee of the Review Conference, pending the agreed text on scope negotiated in Main Committee II [Landmines Working Group]."¹⁶

This understanding was reflected in Resolution 2 adopted by the XXVIth International Conference of the Red Cross and Red Crescent held in Geneva in December 1995, which states that: "[w]ith regard to blinding and other weapons . . . [the ICRC] welcomes the general agreement achieved at the Review Conference that the scope of application of this Protocol should cover not only international armed conflicts." [emphasis in original].

In the opening plenary of the final Review Conference session on 22 April 1996, Conference President Johan Molander (Sweden) declared his intention not to reconvene Committee III (Laser Working Group), that is, not to re-open Protocol IV since it had been adopted by the Conference at its first session in Vienna. There was no objection to this announcement. This left it to the Conference to determine the scope of Protocol IV by other means.

The Review Conference amended Article 1 of Protocol II to extend its scope to include "situations referred to in Article 3 common to the Geneva Conventions of 12 August 1949" for all parties to the conflict if the conflict is occurring in the territory of a State Party to the UNCCW and its amended Protocol II.

India was willing to extend the scope of Protocol II only. As a result, the scope of Protocol IV is limited to the scope of the UNCCW, that is, to international armed conflicts. However, in the statement of the Delegation of the United States in the final plenary session on 3 May 1996, Ambassador Michael J. Mathe-

16. CCW/CONF.I/4** (12 Oct. 1995), Report of Main Committee III.

son declared (in a position cleared by the Departments of State, Defense, and Justice) that: “[T]he United States supported the expansion of the scope of Protocol IV, and it is the policy of the United States to refrain from the use of laser weapons prohibited by Protocol IV at all times.”

Therefore, while the scope of Protocol IV technically is limited to international armed conflicts, the United States, as a matter of policy, will apply Protocol IV to all armed conflicts (however they may be characterized) and peacetime use, including domestic federal law enforcement activities.

4. **Conclusions.** As drafted and adopted by the Review Conference, Protocol IV is consistent with the policy and guidance provided by the Secretary of Defense on 29 August 1995. It is also consistent with the international law obligations of the United States, including the law of war.

5. This memorandum was coordinated with Ambassador Michael J. Matheson; the Office of the Legal Adviser, Department of State; Office of the General Counsel, Department of Defense; Legal Counsel to the Chairman, Joint Chiefs of Staff; the Offices of Army and Navy General Counsel; and the Offices of The Judge Advocates General of the Navy and Air Force.

In addition to Ambassador Matheson’s confirmation of the memorandum’s factual recount of these negotiations, this mem-

orandum was reviewed for factual accuracy by four other members of the United States delegation who participated in development of the Secretary of Defense’s laser policy and delegation guidance and/or were present for the negotiation of Protocol IV: Dr. Ping Lee, Office of the Under Secretary of Defense for Acquisition & Technology (Arms Control Implementation & Compliance); Dr. Bruce E. Stuck, United States Army Medical Research Detachment, Walter Reed Army Institute of Research; Robert M. Sherman, Director, Advanced Projects Office, Arms Control and Disarmament Agency; and Captain William E. Christman, USN, Deputy Director for International Negotiations, Joint Staff (J-5) and by a principal member of the delegation of the United Kingdom, each of whom concurs with its factual account of the events recorded herein.

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